

# **Commission for Environmental Cooperation**

## **Joint Public Advisory Committee**

**27-29 June 2001  
Guadalajara, Jalisco**

### **Concept Papers**

The following concept papers were prepared by the Commission for Environmental Cooperation (CEC) Secretariat staff to stimulate discussion on the themes and topics selected by the Joint Public Advisory Committee (JPAC) for the round tables and the workshop on Green Goods and Services.

In some instances, these concept papers make reference to ongoing work at the CEC; in others they raise new areas of consideration outside the scope of current activities. The ideas contained in these documents are for discussion purposes only, and do not necessarily reflect the views of the Joint Public Advisory Committee and the governments of Canada, Mexico or the United States.

The CEC Program Plan and others information and documents are available electronically on the CEC web site at <<http://www.cec.org>>. You can also find on the web site the CEC Calendar of Events.

To request a hard copy, please contact the CEC Secretariat at <[info@ccemtl.org](mailto:info@ccemtl.org)>.

## MANAGING POLLUTANTS IN NORTH AMERICA

### **ISSUE:**

This strategy has four key elements:

- Advancing transboundary air quality improvement and transboundary waste transfer and disposal initiatives.
- Supporting environmental policies for protection of key populations at risk.
- Providing the public with information about releases and transfers of toxic substances.
- Promoting a program for the sound management of chemicals.

These strategies provide for intervention opportunities either by media (air, water, land) or at appropriate places in the life cycle of chemical products to ensure environmental quality improvements or reduced risks to human health. The development of strategies and action plans is undertaken with the participation of key stakeholders and embodies the principle of public right to know about key pollutants that may affect their health or well being.

### **WHAT THE CEC IS DOING:**

The CEC's annual *Taking Stock* report presents a North American analysis of data from the national Pollutant Release and Transfer Registers (PRTRs) and provides the public with information about sources of toxic releases and transfers in North America. The fifth Taking Stock report, presenting 1998 data, will be released this spring. Based on input from stakeholders and following developments in the national registers, such as addition of new chemicals and lowering of reporting thresholds, the report continues to be improved and expanded. To date, the report includes data from the U.S. and Canada: data from the Mexican PRTR will be included in future reports as it becomes available.

New science shows that ground level ozone and fine particulates pose a clear and substantial human health threat at lower ambient levels than previously thought. In addition, air pollution episodes are regional and transboundary in nature. Thus there is a need to better understand source-receptor relationships in order to put in place cost effective control programs. Toward this end an initiative has been launched to develop a tri-national inventory for criteria air pollutants. Such information is critical to the use of atmospheric models which would then be used to inform national programs and strategies. As with the PRTR reports, a criteria air pollutant inventory report will also provide the public with information on pollution sources, both locally and regionally.

The CEC's sound management of chemicals program (SMOC) was launched in 1995. As a result, the three countries have established North American Regional Action Plans (NARAPs) to address the most dangerous POPs on a continental basis. North America leads in global action to control these toxics. Our leadership can be continued under the POPs treaty of the United Nations Environment Programme, likely to be signed this May.

Recognizing the need for greater cooperation to protect children from environmental threats in North America, in June 1999 the CEC Council announced a special initiative on children's health and the environment. A symposium on the subject was convened in Toronto in May 2000. In June, the CEC Council issued Council Resolution 00-10 on Children's Health and the Environment. The Resolution calls for the development of a cooperative North American agenda to protect children from environmental threats, the formation of an Expert Advisory Board to provide advice to Council, and other actions to promote information exchange and incorporate a children's health perspective into existing CEC projects.

While effective policies and programs have been put in place to control a number of toxic substances, scientific information suggests that the environmental and human health consequences of certain substances may be more subtle or act at lower thresholds than previously thought. Consequently, it is important to examine whether current approaches to risk assessment are adequate to protect sensitive sub-populations.

The following are some options for advancing key elements of this strategy:

#### **AIR QUALITY:**

1. Advance cooperation on standardizing air quality networks, emissions inventories, air quality monitoring data, and transboundary source receptor relationships.
2. Develop a Council Resolution affirming the Parties' commitment to public-right-to-know through the development and dissemination of a tri-national criteria air pollution inventory report, as with the PRTR report. The resolution would also affirm the Parties' commitment to an equitable and comparable inventory information exchange among the three countries suitable for policy-relevant air quality modeling.

#### **CHILDREN'S HEALTH AND THE ENVIRONMENT:**

1. Develop a North America agenda for action on children's health and the environment, under the guidance of the Expert Advisory Board and with involvement of relevant ministries and non-governmental stakeholders.
2. Facilitate collaboration on scientific work being undertaken in the area of children's environmental health (e.g. longitudinal study of child health and chemical exposures).
3. Examine current policy approaches (e.g. risk assessment strategies) to identify emerging issues and areas where improvements could be made.
4. Identify and track key indicators of children's health and the environment in North America.

## **POLLUTANT RELEASE AND TRANSFER REGISTER (PRTR's)**

1. Continue to encourage a common basis of mandatory PRTR reporting that supports the public's "right to know" about the releases and transfers of chemicals.
2. Promote improvements to the national PRTRs that will enhance comparability and comprehensiveness of PRTR data on a regional basis (e.g. covering additional chemicals and sources, defining appropriate reporting thresholds for existing and new chemicals, etc.)
3. Conduct analyses of releases as measured against economic (e.g. GDP) and trade parameters.
4. Explore means of using PRTR data to track progress in implementing NARAPs and other international commitments/objectives.

## **SOUND MANAGEMENT OF CHEMICALS (SMOC)**

1. Expand the SMOC initiative to encompass a "life cycle" approach to management of chemicals with focus on UN ECE and UNEP Persistent Organic Pollutants (POPs).
2. Explore cooperative opportunities to address other non-POPs' toxic chemicals.
3. Examine whether many or all of the currently existing substances could be screened for their environmental or human health effects and extend the SMOC work to develop a North American policy framework to ensure that all new chemicals are screened before they are introduced into commerce.
4. Determine whether adequate test procedures are available to screen biotechnology products for their environmental and human health impacts prior to introduction into the market place.
5. Ensure that NARAP chemicals have proper PRTR reporting requirements developed for them.
6. Track and examine policy measures to address transboundary hazardous waste shipments and disposal.
7. Examine possibilities for encouraging compatibility of standards for substances covered by NARAPs.
8. Explore possibilities of strategic priority setting for enforcement activities concerning NARAP substances.

## CONSERVATION OF BIODIVERSITY

### **ISSUE:**

North America supports some of the most diverse marine and land ecosystems on earth. Mexico alone stands out among all countries of the world for the megadiversity of species, ecosystems and the endemisms present in its territory. The problems confronting the North American region are, however, as vast as its wealth of life forms: threats to biodiversity and to the health of North American ecosystems put both at risk for current and future generations. Although most problems affecting the North American environment are on the national level, certain others are shared by two of the three countries, and the effects and consequences of some of them have the potential to affect the entire continent.

### **WHAT THE CEC IS DOING:**

The CEC acts as consensus builder and catalyst, in cooperation with the three governments and various stakeholder groups, to develop strategies that bring a holistic approach to face the biodiversity challenges of North America.

In order to carry out its goals and objectives, the Conservation of Biodiversity Program focuses on implementation at both the continental and regional scales, developing the CEC as a forum for coordinated, continental solutions to key conservation challenges, as well as providing more limited and targeted geographical focus and interdisciplinary approaches to selected conservation activities.

In a two-year process involving public and private sector stakeholders from across North America, the CEC has developed a long-term strategic plan in the area of biodiversity. The Strategy – a biodiversity agenda for North America – strives to ensure that CEC action produces effective, efficient and inclusive conservation initiatives to deal with common threats and opportunities at both the regional and continental scales.

### **OPTIONS:**

1. Launch for public comment, with a view towards Council approval, the CEC Strategy for the Conservation of Biodiversity in North America at the June 2001 Council Session.
2. As identified in the Strategy, and building on lessons learned from the Environment, Economy and Trade program of the CEC:
  - Explore the use of market incentives, green goods, services and technologies as tools for biodiversity conservation, sustainable use and benefit sharing;
  - Identify innovative mechanisms for conservation financing; and
  - Examine extent and implementation of regulatory tools to identify opportunities for regional agency coordination.

## **NORTH AMERICAN TRADE AND TRANSPORTATION CORRIDORS**

### **ISSUE:**

Trade is booming in North America. As regional commerce accelerates, so too does the flow of goods and services flowing through North America trade arteries—on land, by air and over water. The movement of goods, services and information through the North American system is influenced, and often constrained, by a host of physical and administrative factors. Cars and trucks idle for hours at borders, ground traffic is slowed by inefficient routing or other bottlenecks, and direct rail routes are increasingly difficult to find.

While in many cases other factors, such as local trade patterns, demographic growth or suburban sprawl, may explain stresses on infrastructure, recent studies do identify significant increases in North American trade generally and, in particular, heavy truck travel along the principal routes for inter-American trade. Highways constitute the dominant mode of transportation for North American trade, carrying 80 percent of US exports to Canada and 60 percent of Canadian exports to the United States. US-Mexican and Canadian-Mexican trade reflects similar percentages. Over 70 percent of US-Canadian trade (by value) moves by trucks, which also account for most of the trade with Mexico as well. Data indicate that truck traffic has increased substantially in the past decade, a trend that is forecast to continue in the future.

Inherent in all of the trade corridor proposals are environmental dimensions, some with transboundary or North American significance. Trade corridor initiatives can lead to enhanced cooperation to maximize both environmental and trade/transport benefits.

Any attempt to grapple with the environmental dimensions of expanding trade and transportation corridors will require much closer cross-border (regional) planning and coordination. In this dynamic context, the CEC can make an important contribution by bringing together diverse representatives from the public and private sector to share information on best practices and to stimulate collaborative endeavors.

### **WHAT THE CEC IS DOING:**

In September 1999, the CEC performed initial scoping work resulting in the preparation of *North American Trade and Trade Transportation Corridors*. The report identified the most significant projects, participating agencies, and current level of coordination associated with North American transportation corridors. In 2000, the CEC sponsored a study by ICF Consulting to look at potential air quality effects from increased trade along five corridor segments in North America – two crossing the Mexico-US border and three crossing the Canada-US border. This effort also formed a stakeholders advisory group, (government and non-government representatives from each country) to help identify likely environmental impacts (with special emphasis on air quality) of North American trade and transportation corridor development, and describe opportunities for the prevention or mitigation of these impacts.

The work by ICF led to a public presentation of the study at a CEC-sponsored workshop in Winnipeg, Manitoba, on March 15, 2001. Some of the key points on air pollution impacts from increased trade identified in the report include:

- Assuming low sulfur fuel and heavy duty diesel emission standards are implemented in the U.S. and Canada, total trade-related emissions of NO<sub>x</sub> and PM-10 will decline or remain constant by 2020 compared to current levels. This occurs despite trade volumes projected to grow by two to four times.
- In corridors with high trade growth, NO<sub>x</sub> and PM-10 emissions from rail will increase 50% to 100% by 2020. In all corridors, because of the projected decline in truck emissions, rail will contribute a much larger share of trade-related NO<sub>x</sub> and PM-10 emissions.
- Trade-related emissions of greenhouse gases and CO will not be reduced under the new emission standards, and are expected to rise substantially by 2020. For example, under the baseline 2020 growth scenario, trade-related CO<sub>2</sub> emissions will increase by 2.4 to 4 times over current levels in the five corridors studied.

These initial findings from the ICF report have undergone review by the parties and the public, and ICF is currently revising its discussion paper in light of information received in comments. A second revised paper will be sent to the governments and the stakeholders advisory group by the end of the summer for additional review before release to the public.

**Note:** Please find attached the Joint Public Advisory Committee Advice to the Council 01-01 on the North American Trade and Transportation Corridors.

### **OPTIONS:**

The current work supported by the CEC indicates possible substantial air quality impacts for some air pollutants under projected 2020 trade growth scenarios. To continue addressing these potential impacts, the CEC 2001 workplan will propose allocating resources for further work on trade and transportation corridors. The March 15, 2001 Winnipeg workshop provided an opportunity for public input on some possible options for future work. Some of these options include:

1. Facilitate cooperative cross border exchanges with the goal of establishing comparable inspection and maintenance programs at the state and provincial level for heavy duty trucks involved in cross border trade traffic.
2. Investigate North American incentives to increase the turnover rate of trucks and rail locomotives that will accelerate the introduction of cleaner transportation technologies and harmonization of fuel standards within trade corridors. These can include incentives to encourage the retrofitting of trucks with emission control devices such as particle traps and nitrogen oxides (NO<sub>x</sub>) removal technologies. This can build on successful experiences in Europe, California, the Northeast U.S., and elsewhere.

3. Facilitate the creation of environmental “accounting” reports for trucking companies, railroads, and their large customers. A reporting framework would provide a benchmarking tool for comparing environmental performance among trucking companies and railroads across North America using indicators such as fuel efficiency, emissions performance, choice of fuel quality or alternative fuels, or other environmental criteria. Large customers could use the environmental performance reports as one criterion in selecting their choice of shipper.
4. Promote public policy initiatives, including incentive-based strategies, to promote “Green Transportation Corridors”



## **JPAC ADVICE TO COUNCIL: NO. 01-01**

### **Re: North American Trade and Transportation Corridors**

The Joint Public Advisory Committee (JPAC) of the Commission for Environmental Cooperation (CEC);

IN ACCORDANCE with its mandate to provide advice to Council under Article 16.4 of the North American Agreement on Environmental Cooperation (NAAEC);

HAVING participated in the very successful CEC workshop on Trade and Transportation Corridors on 15 March 2001 in Winnipeg, Canada and further discussed the subject in a public plenary during JPAC's Regular Session 01-01 the following day; and

IN LIGHT of the notable increases in trade within the North American transportation corridors since the implementation of the North American Free Trade Agreement (NAFTA) and the consequent air emissions problems in the corridors across North America, including impacts on children's health and biodiversity, the JPAC respectfully advises the Council to continue this cooperative work in conjunction with our recommendation below:

1. A group of stakeholders (including all levels of government, private sector, communities including indigenous, academia and representatives from successful growth management projects), should select a pilot transportation transborder corridor through a criteria process to:
  - Develop and coordinate an integrated process that is open and accountable with a commitment to continuous improvement (continuous data collection), and extend data gathering beyond borders; and
  - Encourage the CEC Secretariat to devise an outreach program targeted to these stakeholders.
2. The objective will be to create an optimal transportation plan in that pilot sector for a clean corridor program involving cross border cooperation as a template for new policy initiatives.
  - The group should first review the experience of existing programs (i.e., the International Clean Transportation Corridor 3, the Northeast States for Coordinated Air Use Management) in order to assess compatibility of different initiatives in the various corridors and expand current programs where appropriate, through policy initiatives;
  - Consider the mitigation options contained in the ICF Report, in particular harmonization of fuel and retrofit standards; and
  - As a next step, the group should consider the following based on resources and priorities:

- a) Integrate land-use considerations in the transportation process (defining growth and non-growth areas);
  - b) Obtain input from effected communities on the future direction of planned transportation initiatives;
  - c) Develop ways to create and maintain comparable data sets in the NAFTA countries in order to ensure continued success of the plan;
  - d) Conduct risk assessment and develop a risk management plan for emissions and their impacts on human health; and
  - e) Promote financial incentives, such as tax credits, for encouraging green corridor activities.
3. In the long term, any planning and implementation of multi-modal centers including the interaction and possible competition between cross-border transportation modes should include consideration of the environmental benefits taking into account the different legal systems of the three countries.

APPROVED BY THE JPAC MEMBERS

3 April 2001

## MANAGEMENT OF RENEWABLE RESOURCES

### **ISSUE:**

The sustainable management of North America's freshwater resources will be one of the leading challenges facing policy-makers in the twenty-first century. While considerable progress has been made in water management, longer term problems related both to quantity and quality issues persist. For example, rates of depletion for key groundwater aquifers in North America point to a growing problem of water supply, while problems of non-point sources of water pollution show no sign of recessing.

### **WHAT THE CEC IS DOING:**

As part of its work under Emerging Environmental Trends, the CEC employed a quantitative/simulation model (the International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT) augmented with a newly developed water simulation model), to forecast growing water competition between urban expansion and agriculture, to the year 2020. IMPACT presents a global modeling framework that integrates water availability and use, and food supply and demand. The water model provides a 30-year projection of water demand and supply at the basin, country (US only for now) or region level, and simulates water remaining for crops once increasing urban demand is taken into consideration. The model takes into account total renewable water, nonagricultural water demand, the water supply infrastructure, and economic and environmental policies at the basin, country, or regional levels. Various scenarios of water availability and of food production and demand can be simulated to consider a wide range of policy implications. This work complements baseline data gathered by the CEC, showing changes in water quality and water quantity challenges, to the year 2020.

The CEC also provided a North American overview of key water challenges to the World-Water Vision project, held in 2000, and prepared a report surveying existing North American boundary and transboundary water management regions.

### **OPTIONS:**

1. Identify market-based incentives to strengthen the sustainable use of water resources. Market-based incentives can include incentives towards improved demand-side management, as well as (dis)incentives to water-intensive economic sectors – to reduce freshwater uses.
2. Examine market-based/policy incentives to promote enforceable non-point source pollution control initiatives, especially those with cross border jurisdiction.
3. Examine other economic approaches to support the internalization of the environmental impacts in water management, through studies on water pricing policies.

4. Examine an expanded role of the private financial services sector in providing innovative financing to support water protection and conservation.
5. Examine extent and implementation of existing regulatory tools for water quantity and quality. A gap analysis can help identify the opportunities for using complementary market-based tools.

## **ELECTRICITY MARKET**

### **ISSUE:**

Developments in the past two decades have altered the landscape of the electricity sector in North America's. At least two changes are of environmental significance. First, as restructuring continues in numerous state/provincial jurisdictions, the "unbundling" of power generation, distribution and retail marketing allow consumers, for the first time, to choose from which generators to buy power. Second, restructuring and the evolution of the open grid concept is a driving force in projected growth in international trade in electric power among the NAFTA parties.

The combination of restructuring and increased international trade in electric power presents challenges to, and opportunities for, environmental policy. The sector has long been a major source of several key air pollutants and associated environmental impacts, including mercury emissions and acid rain, as well as non-air environmental problems, such as potential impacts of transmission on children's health, and land-use changes. The sector has also made important progress in the decoupling of total electric power generation from total emission levels. More analysis is required to determine probable effects of changes in the structure of the electricity sector in terms of both environmental quality, and environmental policy.

### **WHAT THE CEC IS DOING:**

In January 2001, the first meeting of the Advisory Group on Electricity and the Environment took place bringing together senior representatives of the utilities sector together with environmental and regulatory experts. The Advisory Group, chaired by the Hon. Phil Sharp (former Chairman of the Congressional Sub-Committee on Electricity), is convened under Article 13 of the NAAEC to advise the Secretariat in the development of the initiative on Electricity and the Environment. A report will address the environmental opportunities and challenges facing the evolving continental electricity market including demand-side efficiency and incentives—two main issues identified by the Advisory Board during the meeting.

### **OPTIONS:**

Since early 2001, meetings involving energy ministers from Canada, Mexico and the United States have emphasized the need to discuss the evolution of a North American energy market. The CEC presents a forum for environment ministers, and their officials, to move forward on specific areas of environmental policy coordination in support of the North American electricity market. The parties may wish to take action to address key issues or recommendations raised in the current CEC initiative that may include:

1. Identification of potential areas of environmental cooperation within the increasing continental trade in the electricity market.
2. Analysis of options to increase cooperation among jurisdictions in the design of renewable portfolio standards.
3. Identification of market-based approaches and incentives to help improve environmental quality.
4. Analysis of trends in air emissions controls as well as options to ensure compatibility of standards.
5. Analysis of possible international market access issues arising from projected growth in transborder trade in electricity, with a specific emphasis on the role of non-uniform environmental standards at the sub-federal level.